



Indigenous Knowledge Systems and Medicinal Plant Practices among the Amppipal Community of Gorkha, Nepal

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DOI: <https://doi.org/10.3126/jotmc.v9i9.90466>

Abstract

This paper focuses on the case study of the Amppipal community of Gorkha, Nepal and the community's indigenous knowledge systems (IKS) relating to the ethnomedicine of the community and the socio-cultural identity the community has of itself with the Amppipal socio-cultural identity as ethnomedicine. Primary health care herbal medicine practiced in the community has a unique socio-cultural order. The aims of the research are to understand the depth and breadth of the community's primary health care herbal medicine and local systems of healing and the social history of the community's knowledge systems and how they have transformed over time. The community's elders and traditional practitioners are the primary sources of knowledge the researcher has captured through semi-structured interviews and participatory observation. The research leads to the conclusion that the Amppipal herbal medicine community is in a unique state of crisis. There is a considerable body of knowledge and still the community, Amppipal, the community herbal medicine practitioners and the Amppipal herbal medicine community, is in a unique state of socio-cultural crisis because of the traditional concept and practice system of the Amppipal herbal medicine community being disrupted and permeated by the modern system of biomedicine. The research recommends that a system of education that focuses on the community be created, along with a system of documentation concerning the community and the practices of its community members.

Keywords: Amppipal Community, Ethnoecology, Ethnomedicine, Indigenous Knowledge Systems (IKS), Medicinal Plants/Herbs, Knowledge Transmission

Introduction

Indigenous life worlds can be described as using specific ecological observations to create mental models and intricate knowledge systems, and these systems are not mere static data sets while a knowledge system can be described as a system of intangibles, knowledge acts as a mental property that helps create perceptions and social relations within diverse and disparate societies. The world is diverse, and that diversity is a reflection of variation in systems of knowledge, culture, and practices that embody the social configuration of communities. The focus of this paper will be the indigenous knowledge system of herbal medicine in the Amppipal community located in Palungtar Municipality, Gorkha District, Nepal. Specifically, it is aimed at documenting the community's traditional practices and knowledge of medicinal herbs, and how perceptions of herbal medicine are changing. Nepal is home to many diverse ethnic and indigenous peoples, as well as a myriad of religious beliefs and groups. These societies are characterized by a particular social and cultural organization within disparate sociocultural settings, also characterized by diverse, knowledge systems and cultures created and sustained over time, based on considerable natural resources of their geographic/ ecological settings (Mapara, 2009). A system of knowledge embedded within the experience and interaction of the indigenous people with their environment, indigenous knowledge, is often referred to as the local knowledge system.

This knowledge includes the collective skills, technologies, and processes that enable communities to adjust and prosper (Denevan, 1995). The use of medicinal plants is particularly important in Nepal, where the health care system is still dependent on herbal medicine. Modern medicine is available, but the use of herbal medicine continues.

This underscores the importance of traditional methods. It is noted that the importance of medicinal plants is not confined to anthropology (Joshi and Edington 1990); they are of great importance in the health care systems of many of these communities. The World Health Organization (WHO) states that herbal medicine should be considered by health care providers, and it is part of the traditional medicine list. Also, indigenous knowledge systems provide the best framework for ecologically sustainable development and resource management (Gadgil, Folke, & Berkes, 1993). The documentation and systematic study of indigenous knowledge on herbal medicine is important, especially when modern phenomenon such as globalization and industrialization are threatening these knowledge systems. This study seeks to validate and improve currently available local knowledge and provide insights on local remedies that are potentially valuable to the entire world.

Literature Review

The term ethnoecology refers to the understanding of people and the systems of culture that surround them and the couplings of the people and the systems of culture to the ecology. It is the study of the interrelations of the people and the ecology. Ethnoecology is not about studying the culture and nature separation, however, it focuses to center on the study of the means by which people appropriate nature through a triadic system called the cosmos, corpus and praxis. These are belief systems, systems of knowledge and systems of practice. Brosius et al. (1986) defined ethnoecology as the study of people and their cultural systems in relation to the environment. There is a unique ecology and a system of perception towards the environment of a culture and society.

Ethnoecology studies the systems of classifications and the use of labels and terminologies, which are central attributes of a culture in order to understand the environment and the system of perception of a people. Ethnoecology, as an interdisciplinary domain, focuses on the understanding of people in groups in relation to nature through the systems of knowledge and belief and how people utilize, manage, and control the resources that are available in nature. This approach recognizes the belief-knowledge systems of the indigenous people as extremely useful and complex systems in the context of the conservation of biological diversity.

Thus, ethnoecology offers a holistic perspective on human appropriation of nature by emphasizing the cosmos (belief systems or worldviews), corpus (systems of knowledge and repertoires), and praxis (practice), (Toledo, 1992).

Ethnoecology is an academic field that studies how different social groupings conceptualize and interact with the environment and how this is mediated by a distinct cultural belief system and a language. Language is the most fundamental of all human cultural phenomena. It is the principal instrument through which people categorize and identify the components of the environment, and thereby, it engenders a distinct worldview that defines how a society organizes the exploitation of its biological resources. "Systematic Ethnoecology is as a legitimate study in its own right" and not "simply as a methodological adjunct to nobler tasks" (Frake 1962:53-54). Harris (1968:570-572) has generally critiqued ethnoscience for not demonstrating the relevance of the cognitive analysis it undertakes in the daily life of the people in focus, or for isolating cognitive analysis from practical issues, thereby making it seem trivial. That time has now passed.

Studies of the shared cognitive aspects of human ecological systems have an urgent need to incorporate the action that connects a people's beliefs to the environment in which they are attempting to sustain themselves. Ellen (1982) has observed that ethnoecology provides the means for identifying and analyzing the practical and cognitive dimensions of human activity in an integrated manner.

According to the World Health Organization (Krippner, 2002), ethnomedicine is still widely used in all regions of the developing world, and its use is also increasing in industrialized countries. Broadly, ethnomedicine is defined as the use of plants as medicines and is a type of ethnobotany, which in this case also encompasses the description, observation, and experimental (screening) investigation of indigenous remedies for possible biological or therapeutic value. It is an interdisciplinary field that includes the core sciences (physiology, chemistry, biochemistry, pharmacology, and botany) and also history, archaeology, and anthropology in the search for, and investigation of, naturally occurring substances that have the potential to be of therapeutic value. Ethnomedicine plays an important role in conservation (Hamilton 2003) because of the cultural value and economic support it provides to many people. Ethnomedicine is defined as the body of disease-related beliefs and practices that stem from indigenous cultural developments and that are not modern medicine (Foster 1986 cited by Metha & Lamba 1990).

Ethnomedicine, as a branch of anthropology, focuses on understanding how different cultures construct meanings of health and sickness, how individuals think and act in relation to healing and health. While examining health systems of different societies, Foster and Anderson (1978) considered ethnomedicine to encompass a society's totality of health, health related knowledge, values, beliefs, abilities, and activities, including all clinical and nonclinical health related

endeavors. Ethnomedicine, in a broad sense, gives a description of health related theories and knowledge, which individuals living in a particular society and culture, and by virtue of their socialization, acquire. It serves as the basis for the logic of medicine or cultural medical common sense, which individuals employ to identify and resolve their health issues. Like language, music, and politics, medicine as a culture is studied in particular localities.

Ethnomedicine developed from the study of theories and knowledge on health derived from cultural experience. Each society possesses diverse cultural medical systems or medical knowledge systems, which are termed ethnomedicines. Every ethnomedicine has its characteristic medical logic and common sense, which has, for an extended period, made significant contributions to the overall well-being of the population. Each ethnomedical system has its conception of the human body, the causation and prevention of diseases, diagnosis, and treatment, which are interrelated and integrated. Such systems and knowledge are also referred to ethnophysiology, ethnopsychiatry, ethnomedical practitioner-seeking behavior, ethnopharmacology, and others. In scholarly publications, the term ethnomedicine has, to an extent, been treated differently. In American literature, the term "medicine" in ethnomedicine refers to concepts and knowledge of healing and health care. In European and biological literature, the term "medicine" generally refers to substances or methods of healing and treatment. Illness, disease, prevention, diagnosis, and treatment are all subsumed under Hahn's (1999) definition of ethnomedicine.

Indigenous knowledge is defined by Mahia Maurial (1999) as "the peoples' cognitive and wise legacy as a result of their interaction with nature in a common territory" (PP. 62). Other definitions, such as the one provided by Joey De La Torre (2004), define Indigenous knowledge as the traditional wisdom of Indigenous nations, the worldviews, traditions and customs that guide them. This final definition demonstrates the importance of worldviews in relation to Indigenous knowledge. Emaegwali and Falolan (2003) suggest that Indigenous knowledge can be a proprietary system that, when compared to Western systems can be more adaptive and flexible; or, in some instances, not exist at all. Indigenous knowledge may be embedded in products and services in a way that is less apparent because of the holistic socio-cultural and even spiritual aspects of the traditional knowledge, as opposed to conventional science.

The Convention on Biological Diversity (Rio 1992) has assisted the incorporation of indigenous knowledge into the discourse on biodiversity conservation and sustainable development by influencing the mainstream practice of the signatories to "respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional life-styles relevant for the conservation and sustainable use of biological diversity". Known as the 'Storehouse of Variants of Plants,' Nepal has a wide range of climates and ecosystems. This includes a variety of medicinal herbs that have been used for centuries for healing purposes. Nepal's Himalaya includes a range of climatic and topographical diversity with an abundance of plant species, numerous of which are used for medicinal purposes. The Himalaya region is characterized by its geographical, physiological, topographical, climatic, and ecological diversity, all of which significantly contributes to the biodiversity of the region (Khoshoo and Sharma 1991). The main components of traditional herbal medicine, which is regarded as the primary lifeline, the first option, has fewer side effects, better tolerance to pain, is comparatively less expensive, is accepted in the culture, and has a long history of use when compared to western medicine, are

medicinal herbs (Kunwar et al., 2010). Traditional herbal medicine is rooted in local resources, spirituality, and livelihood practices. Because modern medicine is based on scientific pharmacology, when combined with herbal therapies, it can have miraculous healing effects. Alternative medicine comes from a different paradigm and can work wonderfully alongside.

Many forms of medicine and healing have been documented. The modern medicine industry has built its practice on the processes of herbal healing and the healing supplements that are made of medicinal herbs.

The Dietary Supplement Health and Education Act of 1994 positively influenced both the practice and marketing of herbal supplements.

Nepal, like many other individuals and also ethnomedicine practitioners (who have come to practice ethnomedicine due to a shift in their own belief system), practices herbal healing medicine. In the U. S., herbal medicine is a complete, multi-billion dollar industry. It is also available in retail pharmacies. Ethnic and traditional medicine has also marketed about 1500 a products that are not considered safe and effective. These products and many like them are not regulated by the FDA, and is marketed based on pre market toxicity testing.

Herbal medicine is one of the oldest forms of health care practices, dating back to when 80 of the world population relied on it.

The anthropological perspective suggests that geographical isolation is not the only reason for the phenomenon. Rather, it also accounts for the more developed cultural systems of herbal medicine. Regardless of the advancement of modern (allopathic) medicine, traditional practices continue because of the total health care (or, more accurately, health coverage), especially the psychosocial aspect, which modern medicine neglects. Although modern medicine is thought to neglect the psychosocial aspect of care, it is worth mentioning that 80 % of the population relies on some form of herbal medicine (Farnsworth 1988) even though less than 10 % of the 250 000 species of flowering plants that have been documented around the world have been studied for their pharmacological properties (Stix 1993).

Research Problem

The socio-legal structures within a region's community affect the management of biological diversity and the community's impact on the region's ecosystems. With regard to these impacts, the management of resource systems by Indigenous peoples includes self-governed, community customary law controlled resource systems and traditional systems (Gurung, 1996). These resource management systems have a technical aspect, but, in the broadest sense, they are a unique integration of nature and culture, to include symbolic structures, value systems, and beliefs, which are fully part of the culture of the community. The unique community ecological practices of these peoples have led conservation and social scientists to use the terms indigenous, ethnic, or tribal to describe these groups. These systems of knowledge, however, have not been static and are not repositories of knowledge, but the result of numerous generations of observations, interactions, and relationships with the natural world for the purpose of learning and acquiring practical, empirical knowledge. The knowledge systems indigenous to their ancestral ground and the people who carry them are of great value for current natural resource management and the achieved and sustained global development goals.

The systems of knowledge held by indigenous people contribute to the fields of wildlife and natural resources conservation, sustainable development, and the management of natural resources. Indigenous knowledge teaches people how to live in harmony with their natural surroundings. Historically, indigenous people have retained unique knowledge about the ecosystems within which they have lived. Indigenous knowledge has served as the primary actor in mother-nature conservation and protection. Indigenous knowledge systems and practices are rapidly growing in significance and promise in the field of sustainable development, conservation of biodiversity, and responsible management of the natural resources.

Most of Nepal's population consists of rural residents. For these people, herbal medicine has served as their only means of treating and curing illnesses. The Amppipal people, who share the same geographical area of Nepal, also predominantly live in rural areas. The Amppipal people have one hospital, which is modern, and a variety of herbal medicines, which they use in conjunction with the hospital to treat illnesses. The health care system of Nepal is made up of herbal medicine and the traditional knowledge and practices that accompany it. More importantly, the Amppipal people possess a variety of Indigenous knowledge systems and practices, which include herbal medicine as a customary form of primary health care. The system of herbal medicine possessed by the Amppipal people is not merely a traditional health care system; it is also a system that embodies their culture and values, their system of knowledge, and the process of passing that knowledge to future generations. The Indigenous knowledge systems and practices of the Amppipal people are deserving of the attention of science for study and documentation. It is also important to analyze the continuity of the herbal medicine tradition, as well as the systems, practices, and conditions, in light of innovations and the availability of modern health facilities. This study explored components of the indigenous knowledge system concerning the application of herbal medicines.

Objectives

- a) To document the indigenous knowledge and customs of medicinal herb use in the Amppipal community.
- b) To analyze the community's contemporary perceptions and valuation of this herbal knowledge.
- c) To assess the intergenerational transmission and current viability of this knowledge system.

Theoretical Perspective

This research analyzes the indigenous knowledge and practices related to medicinal herbs through the lens of ethnomedicine and an ethnoecological framework. Ethnoecology, as a conduit of 'people-centered' study, and in particular, grey literature, looks at communities and their environments and includes ethnobiology and ethnobotany as subdisciplines (Davison, 2000). As an approach to cultural anthropology, it looks at cultural frameworks of peoples to understand the ecological knowledge of the peoples and the intertwined relationships of the people, animals, plants, and objects in the environment (Delgado, 2002). In a particular society, a culture shapes the construction of the environment and the elements it deems necessary for sustenance. The ecological elements, in turn, shape the rural areas, the underclass, the systems to address the

medical needs of a society, and the extent of conservation (Harris, 1968). In addition, the ethnoecological framework considers and appreciates the emic (insider) and etic (outsider) points of view in cultural systems and the framework as they relate to the environment (Geertz, 1977). The study of ethnomedicine, which in part examines the integration of the elements of a culture such as plants and the spirituality of people, is a significant part of the research study (Johnson, 1974). The combination of both approaches offers an in-depth study of the cultural practices of the Amppipal people and their rituals, as well as their practices concerning the environment. The Amppipal people possess a sophisticated and well formulated system of knowledge and management of their resources. The research study has articulated the framework that is central to understanding the practices of the Amppipal people. The complexity of their practices, culture, ecology, and health advances understand of indigenous technologies and their utilization.

Methodology

This study aims to understand the Indigenous Knowledge systems (IKSs) and healing practices of the Amppipal community using critical qualitative methodology. The study intends to interact with the community using an anthropological approach to capture and, in turn, legitimize the community's knowledge systems and local narratives about their environment and heritage. Thus, the study goes beyond mere descriptive accounts to empower the Amppipal community using their IKS and healing practices.

Fieldwork and Critical Engagement: The process of collecting primary data spanned one month and was conducted during one period of time in Ward 3 of the Palungtar Municipality. This is attributed to the 50 households that the research is anchored on demographically; nonetheless, depth of inquiry is guaranteed through purposive non probability sampling. This is particularly so due to the in depth focus on what are referred to as knowledge holders. Here, the primary knowledge holders are the Amchi/Dhamis or traditional medicine therapists, and the other elders who are forest users. We are after the type of qualitative data that a secondary broad survey would not be able to provide.

Methodological Triangulation: The study was driven by the necessity to arrive at the most suitable thick description of the context of the study through the use of the best applicable data collection technique. This was achieved through multi-methodological triangulation. Pilot Observation enabled the researcher to record and analyses the day to day experiences and the praxis that is embedded in the traditions of the activities.

In this study, semi-structured and in-depth interviews were employed with 15 primary respondents who took part in several sessions, which provided the research with the opportunity to analyze the development and transformation of understanding over a particular time. The third method of data collection for this study was Focus Group Discussion (FGD). This involved three different FGDs, each with 6-8 participants, in which the participants were divided concerning age and sex to consider different socio-cultural complexities. These discussions aimed to explore the collective views of the respondents concerning the use of traditional medicine and the socio-cultural obstacles and enabling factors in the transmission of knowledge.

Systematic and coded analysis is aimed at the Amppipal people describing to them their cultural narratives and voices to enable them to understand the biological context of the landscape they inhabit and to offer a 'participatory' narrative.

Result

The Ethnoecological Fabric of the Amppipal Community: Although the Amppipal community's relationship with plants has to do with their functions and values, such an understanding does not do justice to the community's socio-religious structure which also influences the people's attitude to their environment. In an effort to present this as sociologically detailed as possible, the findings have been collated into two of the predominant socio-religious socio-ecological themes: Ritualistic Mediation, and Intergenerational Knowledge Transmission.

Table 1
Ethnobotanical Resources and their Ritualistic Functions in Amppipal

S. N.	Local Name	Scientific Name	Ritual Name	Purpose of Use
1	Tite Pati	Artemisia Vulgaris	In different Pooza and Birth and Death ritual	Incense for purifying
2	Peepal	Ficus religiosa L.	Uses in different rituals (Marriage, Poozas)	Both are regard as holy tree and purifying
3	Bel	Aegle marmelos	Uses in different rituals (Marriage, Poozas)	Regard as holy tree and purifying
4	Aap	Mangifera indica L.	Uses in different rituals (Marriage, Poozas)	Regard as holy tree and purifying

Source: Field Data, 2025

Theme 2: Intergenerational Transmission and Contemporary Perceptions

There is an uninterrupted flow of intergenerational transfer of indigenous medicine knowledge from the elders to the younger members of the communities. However, the data shows a contradiction where there is a paradoxically equal respect for the 'limits of knowledge potential' and the Oral Tradition.

During the oral testimony of Ramji Prasad Devkota, the community holds a value on the constructed use of the herbal medicine; however, there seems to be an issue with how deeply one can direct attention toward the system. This peak of the paradox illustrates the community's problem of how to utilize their knowledge of herbal medicine. This paradox is the reason why the community views the plants as a 'cultural anchor' that connects human beings with their forefathers and also as a 'primary healthcare resource'.

Discussion

Findings from the Amppipal study enrich the global ethnoecological database concerning traditional medicine and Human-Environment interactions. The indigenous community's advanced understanding of indigenous regional vegetation and its application in the training of global pharmacology and veterinary medicine is highly commendable. Amppipal's practice of herbal medicine is one of the oldest and simplest traditions and also exemplifies a local type of medical pluralism. Such a practice, although traditional, lives side by side, and most of the time provides the community health and first tier health services. The study noted that practice of traditional health care systems was highly dependent on knowledge transfer across generations. In most of the societies, the knowledge of a disease and the applicable treatment modalities using herbal and other therapeutic methods was regarded a community asset, and resulting in a high level of cultural development and adaptive resilience.

Furthermore, the discovery and systemization of the herbal medicine of Amppipal results from an evolutionary process, as opposed to a mere unidirectional phenomenon, of the Amppipal herbal medicine's systemization and discovery. This focus of the Amppipal Community on the herbal medicine systemization and discovery reflects a broader phenomenon of community praxis as it relates to the disease control practice and the ecosystem relational balance maintaining practice. This body of knowledge forms a critical bridge to the community and the ecosystem, the place where the community healing practice as a technique of healing, becomes a cultural and traditional system. When we regard the community healing practices as a part of a feedback mechanism to the global knowledge system, we can grasp the sophisticated historical phenomenon of the indigenous population and the complex interrelation constructed toward health and survival within their homeland.

Finding: The Ontological Significance of Herbal Praxis

The Amppipal community, along with the utilization of herbal medicine, considers the practice of healing an important part of the community's philosophy. The Amppipal Community's indigenous people have an extensive knowledge of their immediate environment, and with the philosophy of holism, knowledge of the environment is viewed as a collective and tactical domain and integrated with the community's cultural practices. The community of Amppipal, as this research illustrates, has a sophisticated knowledge system of ethno ecosystems and ethnoecology, as it pertains to the enhancement of life in all of its diverse and multidimensional relationships with the bio-physical surrounding systems. In the process, the community of Amppipal is able to foster a sense of common identity, which in turn sustains the community. In the year 2003, the World Health Organization referred to systems of this nature. They are complex systems of multiple, differing health practices, pathways and beliefs that utilize the flora, fauna and minerals of a particular region for the maintenance of health. In Amppipal such a system is created around the healing power of plants. The community of Amppipal considers plants, along with other cultural practices, to have a vital role in sustaining, fusing and strengthening the community, as well as providing healing attributes.

Conclusion

The use of herbal medicine has been notable in the Amppipal community's health care system, embodying the community's ecological, cultural, and spiritual knowledge. Its historical value is now being contested owing to the community's lack of knowledge transfer and the youth's changing outlook on the practice. Elders' regret of being unable to pass on the knowledge of herbal medicine fully indicates how much knowledge is still untransmitted. The research illustrates that the herbal medicine system is not just a means of health care, but is also an integral part of the community's culture and religion, and serves to unite the community with the ecosystem and the super-natural. With the loss of knowledge of herbal medicine, the community also loses its cultural and health values. The community has begun to rely on modern medicine and the social changes that have taken place have overshadowed the use of traditional medicine and the herbal practices. This is due, in part, to the complex relationship that herbal medicine and the community's religious practices have. The community often views the herbal medicine practices and the community's spiritual beliefs through a cultural accent that emphasizes a value greater than the value of use.

The loss suffered by the people of Amppipal can only be partially averted if the community is able to capture the knowledge of the elder herbalists of Amppipal and combine it with the inquisitive knowledge of the young members of the community. A community-based educational strategy focused on the herbalist traditions and the use of the Amppipal people's herbalist traditions will solidify the herbalist traditions of the Amppipal people. More importantly, the community will benefit from the use of the Amppipal herbalist traditions, and the community will protect its cultural traditions. The use of the Amppipal herbalist traditions will also protect the culture, traditions, and heritage of the Amppipal people - the community will benefit from the use of the traditions and the culture will be preserved. The Amppipal people will benefit from the use of the Amppipal herbalist traditions and will preserve the culture, traditions, and heritage of the Amppipal people.

The community of Amppipal needs to record the knowledge of herbal medicine, and preserve the practices of herbal medicine based on the curiosity of the young members of the community and the inquisitive knowledge of the young members.

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